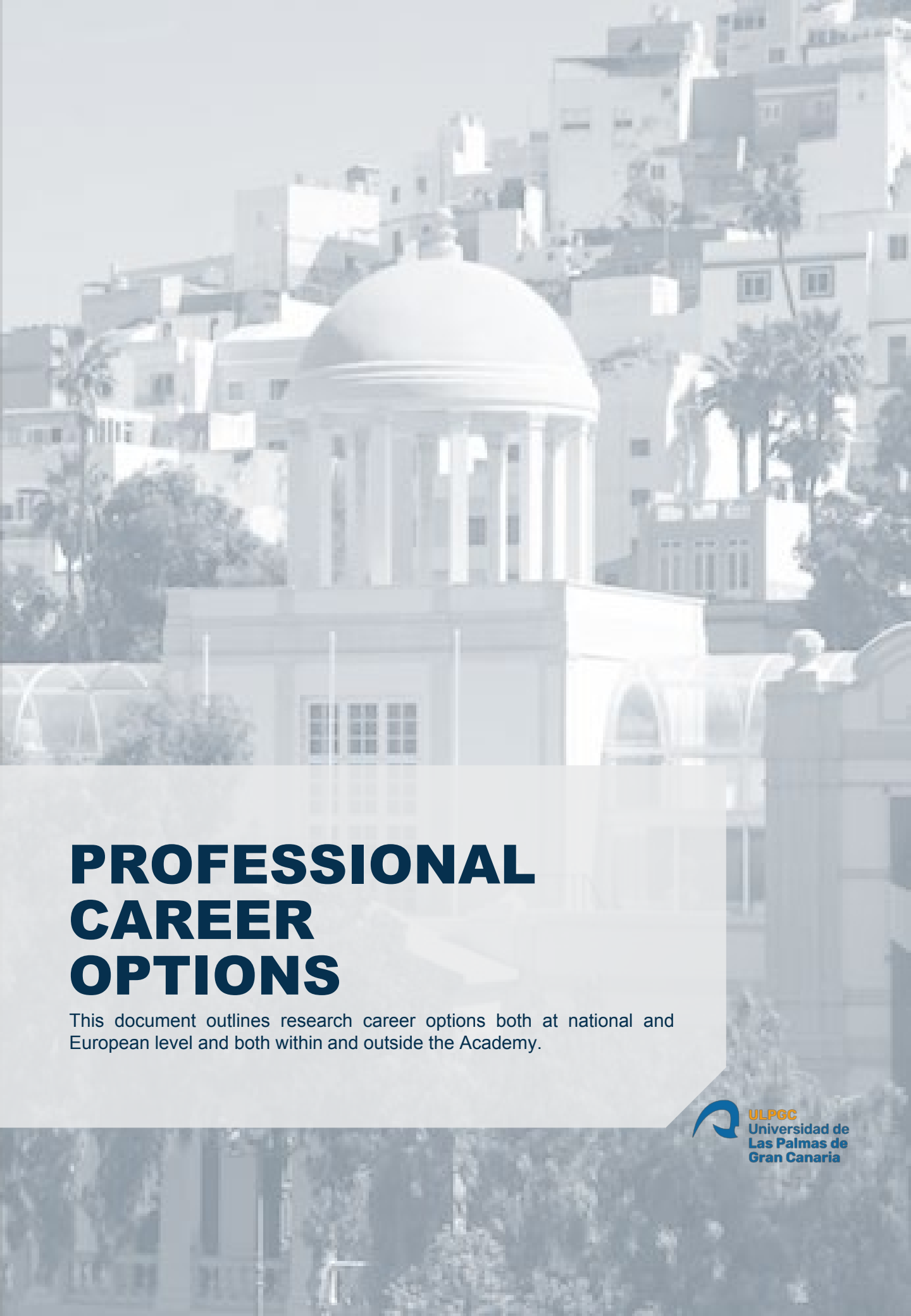

PROFESSIONAL CAREER OPTIONS

This document outlines research career options both at national and European level and both within and outside the Academy.

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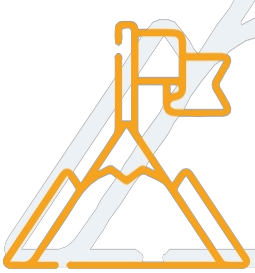
OBJECTIVES OF THE DOCUMENT

The document you are holding in your hands **aims** to show you the **research career options** in different contexts.

On the one hand, the **academic context**, where the career is well defined and develops on the basis of the different research steps; and, on the other hand, the **context that a researcher can find beyond academia**, with examples of some occupations where the demand for researchers and PhDs is high and appreciated.

It also provides **tools and support for** researchers to develop a **Career Development Plan to help** them define the most appropriate research career for each individual, based on different criteria and personal preferences.



It is, in short, a document for practical use in the early stages of a research career, but useful throughout it.

RESEARCH CAREER IN EUROPE

The starting point for the definition of a research career is the classification developed by the European Commission in the framework of the **Human Resources Strategy for Researchers** (HRS4R), which includes **4 levels** to refer in a generic way to the different stages of a scientific career in academia.

This definition can be broadly summarised in the following quadrant.

STUDENTS		RESEARCH STAFF			
GRADE	MASTER	R1	R2	R3	R4
		Doctoral training	Postdoctoral stay	Independent Researcher	Established researcher
		Junior researcher	Recognised researcher	Independent Researcher	Lead Researcher
		Theses	Postdoctoral	Tenure Track	Researcher civil servant, tenure
		Pre-doctoral contract	Access Contract to the Spanish Science, Technology and Innovation System	Distinguished researcher contract	Professional career o f civil servant research staff
4 years	1 -2 years	3-4 years	5 years	8 years	CONSOLIDATION
		Teaching			
			Management		
			Transfer Entrepreneurship		

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RESEARCH CAREER IN SPAIN

The **Spanish Foundation for Science and Technology** (FECYT) periodically produces a complete updated diagram of all the stages of the research career in which the different calls for grants that can be applied for at any given time are identified, with updated links to each one of them. By simply downloading the version in the link, it is possible to find out the details of each of the calls mentioned.

This document is regularly updated and **can be consulted at the following link:**

OPTIONS FOR PROFESSIONAL CAREER

EURAXESS has developed career support tools for both academic and industry/entrepreneurship environments with policy recommendations, training resources and other useful issues.

An important part of this information can be obtained more directly from the "contact points" that Euraxess has in the different countries and which, in the case of Spain, can be located through this **link**.

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Beyond academia

1. Euraxess Tools

The Spanish Science and Technology system, as is common in Europe and the United States, has a large number of people in the early stages of career development, i.e. at the doctoral level. However, of this large number of researchers, only a small percentage will be able to remain in academia, as the structure will not be able to absorb the full volume of PhDs generated.

In Spain there is no data on the number of PhDs who eventually go on to work in non-academic sectors, but in some European countries that have developed this type of studies, the figure is said to be above 90% and the Euraxess website itself states that between 80 and 90% of PhDs will go on to successful careers outside academia.

With this in mind, the European portal has developed a toolkit for researchers that brings together resources to help researchers explore careers, including tips, questionnaires, information and much more.

This kit offers different tools that allow to narrow down interests and associate options to the professional profile on which the researcher is working in order to explore alternatives and to better understand what kind of situations may arise when the researcher considers this intersectoral mobility.

Some examples are given below:

1. Your career goals:

- I am clear about my goals.
- I have some ideas of what to do and what not to do.
- I have no idea what to do with my career in the future.

Based on these questions, a four-screen test is developed, which allows a profile to be defined and provides suggestions for career development based on this profile, showing some tools and documents of specific use.

2. Are you aware of your values and motivations?

- Yes, it is something I know. I am aware of my values and what motivates me.
- I haven't done much work on it but I have a good idea.
- I have never thought about it.

In this case there are three screens that help to define the profile and then display data and specific help to solve the question.

3. Have you reviewed your skills, knowledge and experience recently?

- Yes, I have reviewed my skills and experience and I know what I need.
- Yes, and I have compared them with a list of which ones are needed in my current or future area of work.
- I have not thought about it recently.

In three screens, this test returns a report on what the situation is really like and which tools and documents can assist in development.

Euraxess complements this tool with other information options and tools that address aspects such as **working in industry and entrepreneurship**, information on international **mentoring** programmes, or the **Talent Development Suite**, a tool created within the **EURAXESS TOP III** project, which aims to help postdocs one to three years after completing their PhD.

This is the period when researchers often have to decide whether they prefer to pursue an academic or non-academic career and the **Talent Development Suite** (TDS) helps with professional and personal development planning.

2. Other tools and sources of information

- **The European Science Foundation** (ESF) provides up-to-date information on career opportunities and produces reports on the status of postdocs and policies governing research careers.
- **Nature** has a dedicated career section providing information on the job market and trends in research, with examples of careers and jobs.
- **Science** has a section dedicated to careers where it provides reports and guides for the development of research careers. Some examples:
  - ✓ Career Trends: Transferring Your Skills provides guidelines for making a career change to other sectors.
  - ✓ Career Trends: Developing Your Skills examines which skills are most marketable and how you can draw on your experiences to help you make the transition to the next phase of your career, making sure you have the skills you need.
  - ✓ Career Trends: Industry or Academia: Where do I fit in? presents scenarios from both industry and academia, offering advice on how to advance in an academic career and also how to prepare for a career in industry.
- **The Vitae Researcher Development Framework (RDF)** is intended for those who are doing a PhD, are research staff, are developing an academic career or are thinking of using the skills developed during the PhD in another career. It is structured in four areas and sets out the broad range of knowledge, intellectual skills, technical skills and professional standards expected of a researcher, as well as the personal qualities, knowledge and skills to work with others to ensure wider research impact.

PROFESSIONAL DEVELOPMENT PLAN

A **Career Development Plan** serves to explore career possibilities and to set goals that are realistic and achievable, while targeting specific career objectives.

It is usual to start this process once you are already immersed in your career, although it is advisable to start the analysis as soon as possible and to work on it continuously, in order to be able to reorient your expectations and options when appropriate.

Ideally, work should start in Stage One (R1) when research is carried out under supervision up to the point of obtaining a PhD, or when the status of Recognised Researchers (R2) is achieved, who are PhDs or equivalent and not yet fully independent.

A Professional Development Plan allows for

- Better recognise the strengths of the professional profile and identify areas for improvement.
- Maximise your potential as a researcher.
- Be more proactive in seeking and taking advantage of development opportunities that are available within and outside the organisation.
- Locate more advanced skills, knowledge and techniques for conducting excellent research.
- Improve the ability to work effectively in the current position and prepare for future positions you may aspire to.

Production process

Euraxess has developed a **Career Development Handbook** describing the stages or phases to be completed in the process, which are as follows.

STEP 1: Self-assessment. interests.

It starts by collecting information on skills, abilities and interests. This helps to select careers based on personality, skills, interests and unique values. This early step can help avoid complex or frustrating situations in later years. A self-assessment is also important to discover new career paths that may not have been considered previously. The elements that are assessed are:

- Skills: the activities you are good at, such as writing or teaching.
- Values: things that are important to each person such as achievement, status or autonomy.
- Interests: what you like to do in your free time such as walking, going out with friends, going to the cinema, etc.
- Personality: individual traits, motivational drives, needs and attitudes.

The second step in career planning is to explore and research options. This provides a better understanding of the world of work and what employers expect from employees. It is important to determine which occupations and jobs best fit one's skills, interests, values and personality.

After completing this preliminary research, you can begin to eliminate the professions that are not attractive and get more details about those that are.

According to targetpostgrad.com the sectors and types of jobs that most attract and fit the profiles of PhDs are:

- Education (both teaching and administrative and professional roles)
- Public sector: administration, government agencies and local governments.
- Industry research and development.
- Health sector and medical research.
- Business and finance.
- Consultancy and think tanks.
- Publications and publishers.
- Intellectual property.
- Non-profit sector and NGOs.
- Business activities.

Professional Development Plan

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STEP 3: Skills development

The third step in career planning is planning to upgrade skills to match those in demand in the desired career. This is a key part of career development. The skills chosen may be skills that need to be developed now to enable future success, or skills needed to succeed now.

It is advisable to approach skills in a gradual way and to plan them in such a way that they are complementary activities that add to the training. Setting skill development objectives is like creating your own curriculum. For each skill you want to achieve, you can set SMART (Specific, Measurable, Achievable, Realistic and Timely) objectives on how to get training, practice the skill and get feedback (training, practice, feedback loop).

Skills

The skills most in demand in industry according to the EURAXIND project (which aimed to develop resources to support researchers and institutions and to increase opportunities for research collaboration) are:

- **Communication skills**
- **Trust**
- **Organisational skills**
- **Entrepreneurial skills**
- **Teamwork for problem solving**
- **Project management**
- **Flexibility**
- **Leadership skills**

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STEP 4: Action plan

This step consists of writing a **professional action plan** that will identify the short- and long-term goals that need to be achieved in order to succeed.

The **key questions** for this, according to Euraxess are:

- What actions/steps will help me achieve my work, training and career goals?
- Where can I get help?
- Who will support me?

The end result may be a **plan that focuses on exploring options further** or a **plan that sets out steps to help achieve the next learning or work goal**.

CAREER SKILLS

OUTSIDE THE ACADEMY

When moving from academia to the company or to another sector, it is important to assess the benefits and differences that will be found in the new positions. It is useful to know what other sectors are like and what their requirements are. There are many sectors that require highly qualified professionals, such as PhDs, and in each case the functions and objectives of the jobs are different. Here is an overview of some of the fields in which researchers can have a broad career development.

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Who?

The sector needs researchers, especially STEM graduates and highly specialized PhDs, such as botanists and farmers. Research fields are chemical engineering, bioengineering, mechanical engineering, botany, biology, horticulture and agriculture.

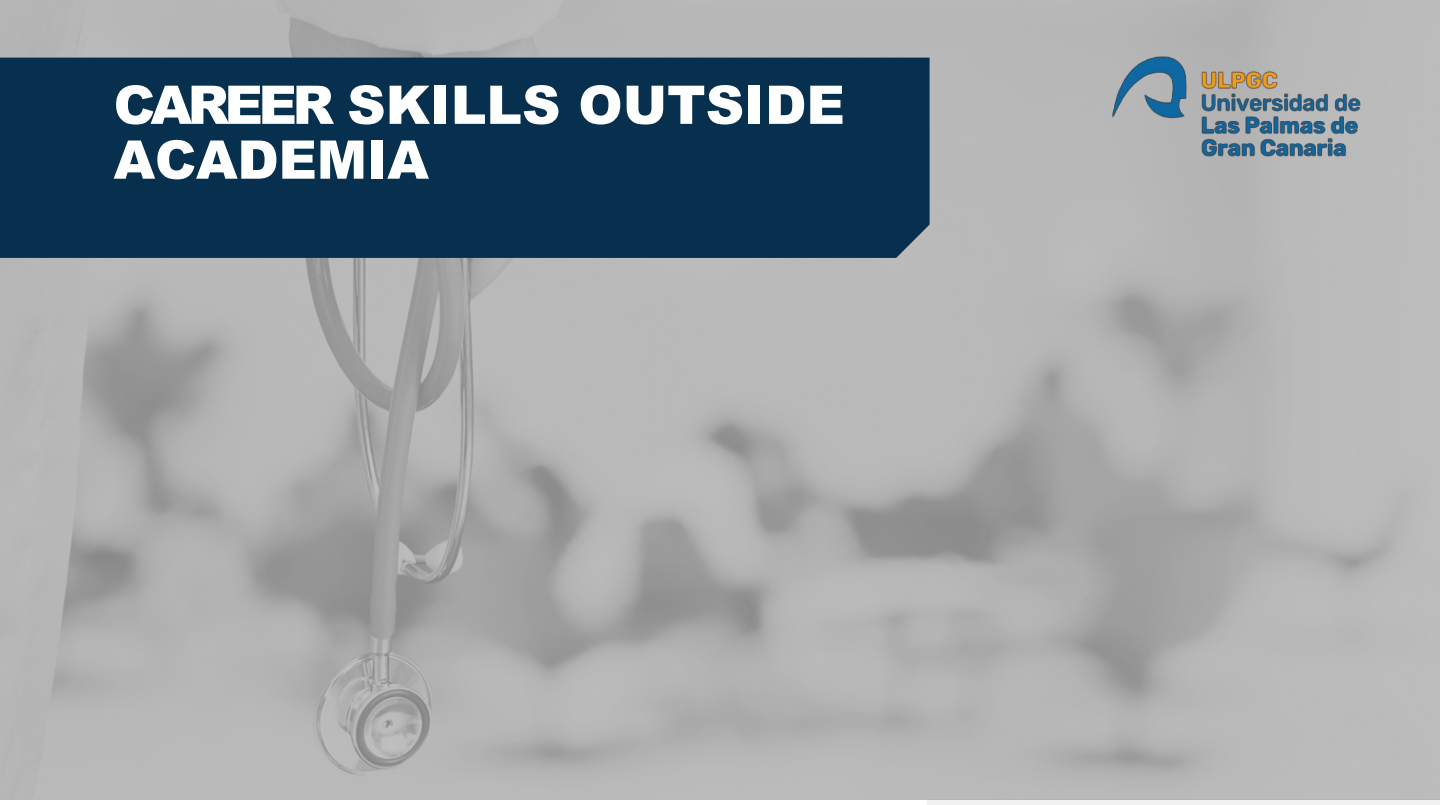
Required skills include numeracy, initiative/ innovation, organization, research, teamwork and project management.

Agriculture and Forestry Sector

It is concerned with soil cultivation and livestock husbandry, as well as the management of vegetation in forests and woodlands. It is a sector that generates employment and income for millions of Europeans.

How?

It is a stable sector with increasing scope for growth in the coming years. Around 5% of the European workforce is employed in the agricultural or forestry industries. The majority of companies in the European sector are small and medium-sized enterprises.



Health Sector

Health care includes human health, residential care activities (including long-term care) and social work activities. Europe has one of the fastest ageing and shrinking populations in the world. The sector is therefore one of the fastest growing economic sectors. In addition, Europe's health care is among the most advanced in the world, with several European countries being world-leading innovators.

How?

Employment in this sector is relatively easy to find and has the second highest number of job vacancies after wholesale and retail trade. Due to Europe's population and age problems, the sector will have many employment opportunities in the coming years. Most health care companies are large. There are some smaller companies, such as private practice offices, but they remain a minority.

Who?

The industry has many positions for researchers, due to the demand for cutting-edge healthcare products and services.

The most common research fields are biochemistry, biology, biotechnology, biomedical sciences, chemistry, food science, genetics, microbiology, pharmacology, nanotechnology, biomedical engineering, and medical sciences.

Teamwork, interpersonal communication, research, problem solving, creativity, enthusiasm, time management and organizational skills are usually required.

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Who?

Researchers are rare in the financial sector, however, they can be found in investment banks, hedge funds, private equity firms, risk management firms and consulting firms. Most researchers in the financial sector are working as industry-specific equity research associates or quantitative analysts.

The most common research fields are mathematics, science, engineering, economics and finance.

Skills such as complex problem solving, creativity, analytical, stress management, organizational, flexibility, creativity, communication, and independence are often required.

Financial Sector

The financial sector is one of the most important economic sectors in Europe, as it participates in and is an integral part of almost all other economic sectors.

How?

There are not many job offers, but those that do exist are highly paid. They tend to be in large companies and financial institutions. Many of these companies and institutions have agreements with academic institutions whereby a certain percentage of graduates in a certain PhD field, often finance, find direct employment in the company upon graduation.

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Consulting Sector

It is the business of giving expert advice in a professional or technical field. The field of consulting is a 20th century invention and has since become one of the most respected and lucrative economic sectors worldwide. There are hundreds of different types of consulting and business firms and most of them are of the operations, strategy, technology and human resources type.

How?

The European consulting sector is one of the fastest growing in the world and there are more job opportunities than ever before. Working in the sector is not only prestigious but extremely well paid and is a great place to start a career. But it is worth noting that employees in the sector work very long hours and travel a lot for their work due to the international profile that these companies usually have.

Who?

The sector needs highly skilled researchers and analytical thinkers. The sector's high salaries and career opportunities make it extremely desirable for recent graduates and, as such, extremely competitive.

Almost any field of knowledge can be used in consultancy because of the variety of subjects it covers, although researchers in STEM fields do particularly well.

This job requires problem solving skills, analytical thinking, strong written and communication skills, ability to work in a team, planning ability, organisational skills, a friendly personality, initiative, motivation and commercial awareness.

MIRIAM RODRIGUEZ

SGlobal CEO & Managing Partner GOC- Health Consulting

Miriam Rodriguez is an expert on talent management and its evolution as a concept through the organisational transformation. His experience allows him to know very well how to attract and grow talent within organisations, taking into account the different professional profiles that can be located and in which researchers can fit.

What would you say to someone who is considering a research career outside the academy?

Firstly, it should be borne in mind that there are sectors in our country that have very little development in this area, for example, the pharmaceutical sector.

I would also say start thinking about using and expanding some form of networking.

professional networking.

But I would recommend you not to do it in an improvised way, but to spend some time identifying and mapping companies or professionals that you like what they do or with whom you would like to work and try to force small interviews with them, always taking them, of course, very prepared to be as effective as possible in the contact.

What skills are most in demand in highly educated profiles such as these? What types of work can be developed according to these training/skills?

A wide variety of professional profiles are possible, e.g. in consultancy they can be in high demand. For us, once the person has the basic competences demanded in the job description, it is very important to know which competences the person has and are, in fact, the deciding factor. These competencies have to do with the capacity for critical thinking, active listening, or attention to detail (something that is very common when coming from the field of research).

Communication skills (both in English and Spanish) are also important, and by communication skills I do not only mean a good command of the language, but also the ability to organise concepts and transmit them powerfully, generating an impact on the listener. And, of course, it is necessary to have a customer-focused vision.

Generally, companies have very specific needs and sometimes researchers are aware that they know a lot about their field and find it difficult to accept that there may be other points of view. In private companies, this empathetic listening is essential.

There are academic researchers collaborating in companies and developing research for business environments,
Is this a good starting point for exploring a research career outside academia? Is such experience outside academia appreciated?

It depends on the position, once the job description data is covered, it doesn't have to be a disadvantage one way or the other, of course. There is qualitative research that is very important and that in the field of health is used a lot for the creation of methodologies and models, and that is very welcome in the company. Sometimes, having collaborated with companies is interesting because they understand how it works. The biggest limitation is not understanding the private company environment in which one generally works by objectives, time is a very limiting factor, the will of the client is a priority, etc. These approaches can be shocking for people used to an academic environment where time or flexibility to adapt to the client's needs are often not priorities. To take the step out of academia, it is necessary to understand that sometimes the best is the enemy of the good.

The labour market is changing and there is an increasing demand for talent. However, it is not always easy to find that talent. Is there a need for greater mobility between sectors?

Indeed, the demand for high-level training profiles is growing in the labour market and it is important to understand this mobility and these changes as something that enriches the individual and the professional. It would be highly desirable that the world of

If public research were able to implement mobility formulas similar to those in the private market, it would be a much more enriching experience.

What advice would you give to someone who has just started their doctoral studies and has four years ahead of them to build up a specific professional profile?

They should try to look beyond the doctorate. This training will provide them with very precise knowledge in their fields, but they should not neglect other areas that will be fundamental for their development. In the job market of private enterprise, doing a PCR perfectly well is fine, but it is more important to have a good command of English and to be able to communicate effectively. I would tell him or her to use the maturity he or she will gain to explore in advance what options the market has for him or her as a researcher and try to study them in parallel to understand what the work they do consists of and what he or she will need to know in order to make that possible leap. Skills such as English, technological knowledge, customer empathy, etc. can be trained and are important. Having a digital vision is essential. The world is in transformation and technology is no longer the enabler, it has become the driver. And this is not just about technical skills but about vision, about the mentality of how to use it to scale the business or your project. I also think it can be very useful to join a mentoring programme where they can get advice and guidance, otherwise they will probably end up working where they can and not so much where they want to.

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